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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/844,679	04/30/2001	Teruichi Watanabe	Q64172	8978

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EXAMINER
YAMNITZKY, MARIE ROSE

ART UNIT	PAPER NUMBER
1774	8

DATE MAILED: 04/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/844,679	WATANABE ET AL.	
	Examiner	Art Unit	
	Marie R. Yamnitzky	1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 March 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

1. This Office action is in response to applicants' amendment received 03/17/03 (Paper No. 7), which amends the specification, the abstract and claims 1-4, and adds claim 9.

Claims 1-9 are pending.

2. Based on a copy of a postcard receipt attached to Paper No. 7, the Office received a certified copy of the priority document that is the basis of a claim for foreign priority under 35 U.S.C. 119(a)-(d) or (f) on August 29, 2001. The examiner acknowledges receipt of the priority document based on the postcard receipt. (The certified copy of the priority document has not yet been matched with the application file).

3. The objection to the specification and the issues raised in the rejection under 35 U.S.C. 112, second paragraph, as set forth in Paper No. 5, are overcome by applicants' amendment except for the issue raised with respect to claim 5.

The issue raised with respect to claim 5 in the rejection under 35 U.S.C. 112, second paragraph, is withdrawn in consideration of applicants' arguments on page 9 of Paper No. 7 regarding claim 5. The rejections of claim 5 under 35 U.S.C. 102(b) are also withdrawn in consideration of applicants' arguments on page 9 of Paper No. 7 regarding claim 5.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-3, 7 and 8 stand rejected under 35 U.S.C. 102(b) as being anticipated by Baldo et al. in *Appl. Phys. Lett.* 75(1), pp. 4-6 (July 5, 1999) for reasons of record in Paper No. 5 and the additional reasons set forth below.

Claim 9 is rejected under 35 U.S.C. 102(b) as being anticipated by Baldo et al. in *Appl. Phys. Lett.* 75(1), pp. 4-6 (July 5, 1999) for substantially the same reasons as claims 1-3, 7 and 8.

With respect to the concentration range set forth in amended independent claim 1, which is narrower than the concentration range set forth in the original claims, Fig. 2 of the prior art provides data for a device in which the light emitting layer comprises a carbazole compound (CBP) and 1 wt% of an iridium complex compound ($Ir(ppy)_3$), and two devices in which the light emitting layer comprises a carbazole compound (CBP) and 6 wt% of an iridium complex compound ($Ir(ppy)_3$).

With respect to the concentration range set forth in new claim 9, Baldo's device in which the light emitting layer comprises CBP and 1 wt% of $Ir(ppy)_3$ meets the limitations of claim 9.

6. Claims 1-3 and 6-8 stand rejected under 35 U.S.C. 102(b) as being anticipated by Tsutsui et al. in *Jpn. J. Appl. Phys.* 38, pp. L1502-L1504 (December 15, 1999) for reasons of record in Paper No. 5 and the additional reasons set forth below.

Claim 9 is rejected under 35 U.S.C. 102(b) as being anticipated by Tsutsui et al. in *Jpn. J. Appl. Phys.* 38, pp. L1502-L1504 (December 15, 1999) for substantially the same reasons as claims 1-3 and 6-8.

With respect to the concentration range set forth in amended independent claim 1, which is narrower than the concentration range set forth in the original claims, Fig. 1 of the prior art provides data for a device in which the light emitting layer comprises a carbazole compound (CBP) and 2.3 wt% of an iridium complex compound ($Ir(ppy)_3$). This prior art device also meets the limitations of new claim 9.

7. Claims 1-8 stand rejected under 35 U.S.C. 102(e) as being anticipated by Hosokawa (US 2002/0045061 A1) for reasons of record in Paper No. 5 and the additional reasons set forth below.

Claim 9 is rejected under 35 U.S.C. 102(e) as being anticipated by Hosokawa (US 2002/0045061 A1) for substantially the same reasons as claims 1-8.

With respect to the concentration range set forth in amended independent claim 1 and the concentration range set forth in new claim 9, these ranges being narrower than the concentration range set forth in the original claims, Hosokawa teach that the amount of phosphorescent dopant in the light emitting layer is preferably 0.1 to 30 parts by weight per 100 parts by weight of carbazole host material, more preferably 0.5 to 20 parts by weight and still more preferably 1 to 15 parts by weight. For example, see paragraphs [0094]-[0096] and claim 9 of Hosokawa's published application.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claim 4 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Baldo et al. or Tsutsui et al., either reference further in view of JP 2000-21572, for reasons of record in Paper No. 5 and the additional reasons set forth below.

Claim 4, by virtue of its ultimate dependence from amended claim 1, requires the iridium complex compound to be present in the light emitting layer in an amount of 0.5 wt% to 6 wt%.

Baldo et al. disclose three devices, and Tsutsui et al. disclose one device, in which the light emitting layer comprises amounts of iridium complex compound in the range of 0.5-6 wt%.

10. Claims 5 and 6 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Baldo et al. or Tsutsui et al., either reference further in view of Mori et al. (US 5,281,489) or applicants' admitted prior art, for reasons of record in Paper No. 5 and the additional reasons set forth below.

Claims 5 and 6, by virtue of their dependence from amended claim 1, require the iridium complex compound to be present in the light emitting layer in an amount of 0.5 wt% to 6 wt%.

Baldo et al. disclose three devices, and Tsutsui et al. disclose one device, in which the light emitting layer comprises amounts of iridium complex compound in the range of 0.5-6 wt%.

11. Applicants' arguments filed 03/17/03 have been fully considered but are not persuasive.

Applicants argue that Baldo et al. fail to disclose that the luminance half-life period of the organic EL element depends on the concentration of $Ir(ppy)_3$ in the light emitting layer, and does not teach or suggest a device having improved luminance half-life period caused by the iridium complex compound concentration of 0.5 wt% to 6 wt%.

Applicants argue that Tsutsui et al. do not show any specific dependency of decay of luminance as shown in present Fig. 7.

Applicants argue that Hosokawa does not disclose the luminance half-life period which depends on the concentration of $Ir(ppy)_3$ in the light emitting layer as shown in Fig. 7.

Applicants argue that the secondary references applied in the rejections under 35 U.S.C. 103(a) also do not disclose any specific dependency of luminance decay as shown in Fig. 7.

These arguments are not persuasive because while none of the applied references disclose the relationship between $Ir(ppy)_3$ concentration and half-life that is depicted in present Fig. 7, Baldo et al., Tsutsui et al., and Hosokawa do disclose concentrations within the ranges set forth in present claims 1 and 9, thus anticipating the ranges.

12. Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication should be directed to Marie R. Yamnitzky at telephone number (703) 308-4413. The examiner works a flexible schedule but can generally be reached at this number from 6:30 a.m. to 4:00 p.m. Monday, Tuesday, Thursday and Friday, and every other Wednesday from 6:30 a.m. to 3:00 p.m.

The current fax numbers for Art Unit 1774 are (703) 872-9311 for official after final faxes and (703) 872-9310 or (703) 305-5408 for all other official faxes. (Unofficial faxes to be sent directly to examiner Yamnitzky can be sent to (703) 872-9041.)

MRY
04/11/03

Marie R. Yamnitzky

MARIE YAMNITZKY
PRIMARY EXAMINER

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